BRUNS B.P.

Physicochemical methods for determination of antibiotics. II. Anthranone method for quantitative determination of mannosidostreptomycin. B. M. Savitskaya, B. P. Bruns, A. A. Korobitskaya, and V. D. Kartseva (All-Union Sci. Research Inst. Antibiotics, Moscow). *Zhur. Anal. Khim.* 10, 124–7; *J. Anal. Chem. U.S.S.R.* 10, 113–15(1955) (Engl. translation); cf. *C.A.* 47, 5070g.—A check of the Kowald-McCormack method (*C.A.* 44, 2703*i*) led to certain modifications which improved its accuracy. To prep. the reagent dissolve 0.1 g. of anthranone in 100 ml. concd. H_2SO_4, slowly add 15 ml. H_2O, and allow to stand for 1 hr., after which it is ready for use. After addn. of the reagent to the analyzed soln. the mixt. should be kept in boiling H_2O for 6 min. This is to develop the max. color intensity. Heating for a shorter period or over 6 min. affects the color adversely. The procedure of analysis is given. By this procedure deviation did not exceed 3%. M. Hoseh

MD

(3)

BRUNS B.P.

3186. Physico-chemical methods of determining antibiotics. II. Anthrone method of determining mannosidostreptomycin. E. M. Savitskaya, B. P. Bruns, A. A. Korobitskaya and V. D. Kartseva (*Zh. Anal. Khim., SSSR*, 1955, 10 [2], 154–127).—In carrying out the method of Kowald and McCormack (*Brit. Abstr. C*, 1950, 183) for determining D-mannose, errors up to ± 13 per cent. were observed. The following method is claimed to be accurate to ± 3 per cent. To 7 ml of the aq. solution of mannose or the streptomycin preparation are added, in a thin stream with continuous stirring, 23 ml of anthrone reagent, prepared by dissolving 0·1 g of anthrone in 100 ml of conc. H_2SO_4, adding 15 ml of water, and setting aside for 1 hr. before use. The solution is rapidly heated for 6 min. on a bath of vigorously boiling water, and then cooled in water containing ice. The optical density is determined at room temp., a red filter being used. The green colour of the solution is stable for 4 to 5 hr. G. S. SMITH

(3)

BRUNS, B. P. :

Bruns, B. P. : "Investigation of the kinetics and mechanism of catalytic processes on manganese dioxide." Min Chemical Industry USSR. Physicochemical Inst imeni L. Ya. Karpov. Moscow, 1956.

So: Knizhnaya letopis' No 27, 1956. Pages 94-109;111

BRUNS, B.P.

USSR/Surface Phenomena. Adsorption. Chromatography. Ion Interchange B-13

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26386

Author : L.F. Yakhontova, Ye.M. Savitskaya, B.P. Bruns.
Inst : Academy of Sciences of USSR
Title : Kinetics of Streptomycin Sorption and Influence of Sodium on Streptomycin Sorption by Hydrogen Forms of Carboxyl Cationites.

Orig Pub : Dokl. AN SSSR, 1956, 110, No 2, 249-251

Abstract : The speed of absorption of streptomycin cation (Str^{3+}) by H-forms of carboxyl cationites KB-4, KB-4F-2, KFU and amberlite IRC-50 in the neutral region of pH (the pH level was maintained by the introduction of the OH-form of anionite EDE-10 into the system) was studied. It was found that the sorption speed of Str^{3+} was considerably less than that of the large Str^{3+} ion (mol. weight 584). Amberlite IRC-50 possesses the greatest capacity in reference to Str^{3+}. A peculiar phenomenon was noted: if Na_2SO_4 was added to the equilibrium system of Str^{3+} solution with a cationite, an additional sorption of Str^{3+} takes place, but the solution remains to be neutral. This increase of cationite capacity in respect to Str^{3+} may be explained only by the loosening influence of Na^+ on the polymer structure, but not by a dissociation increase of carboxyl groups.

Card : 1/1 All-Union Sci. Res. Inst. [illegible]

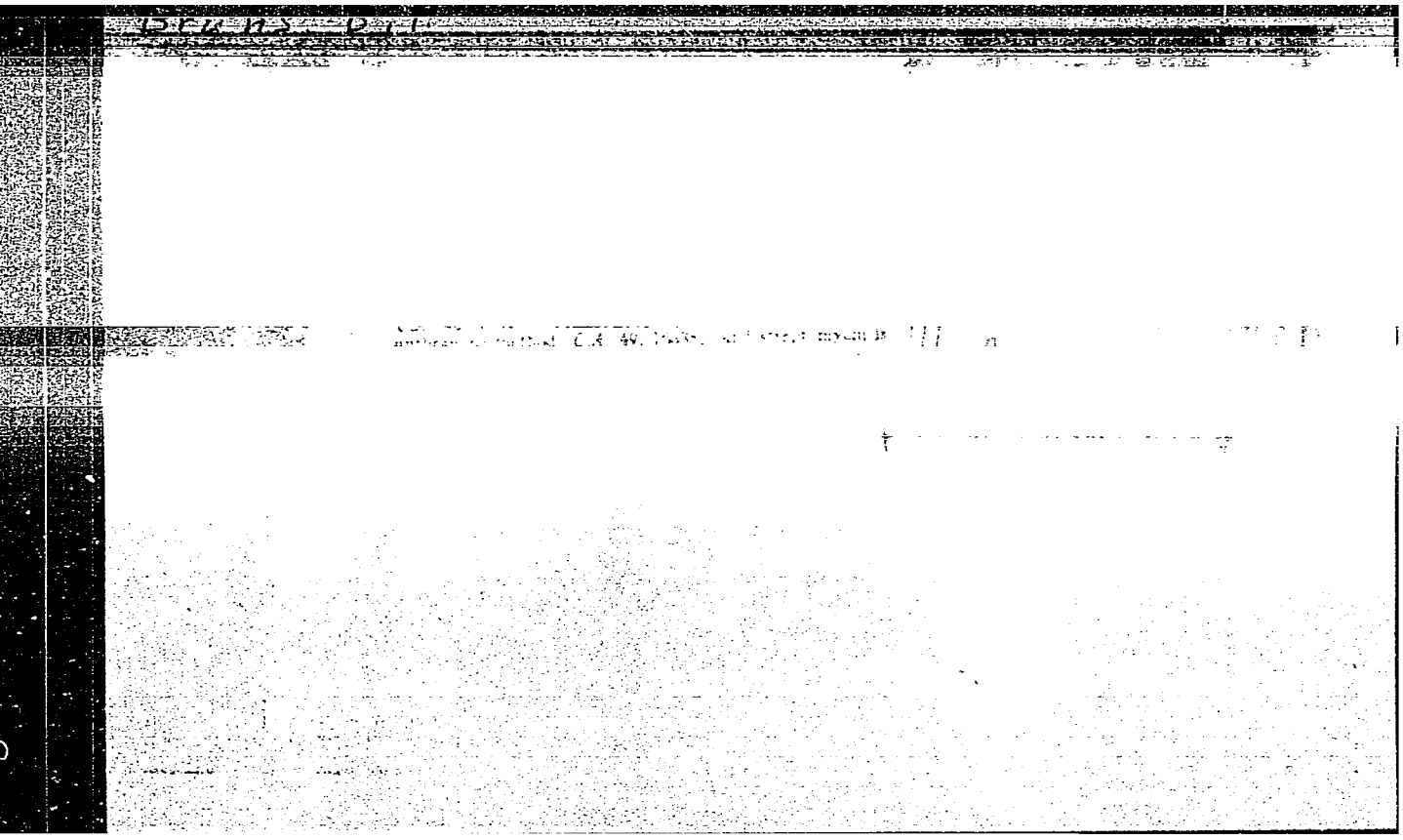
Name	BRUNS, Boris Pavlovich
Dissertation	Research in the Field of Kinetics of the Mechanism of Catalytic Processes on Manganese Dioxide
Degree	Doc Chem Sci
Affiliation	All-Union Sci Res Inst of Antibiotics
Defense Date, Place	2 Jul 56, Council of Order of Labor Red Banner Sci Res Phys-Chem Inst imeni Karpov
Certification Date	15 Dec 56
Source	BMVO 7/57

BRUNS, B.P.

YAKHONTOVA, L.F.; SAVITSKAYA, Ye.m.; BRUNS, B.P.

Sorption rate of streptomycin by carboxylic cationites. Dokl.AN SSSR 111 no.2:388-390 N '56. (MIRA 10:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov. Predstavleno akademikom V.A.Karginym.
(Streptomycin) (Carboxyl group) (Base-exchanging compounds)



BRUNS, B.P.

20-2-45/62

AUTHOR YAKHONTOVA, L.F., BRUNS, B.P.,

TITLE True Equilibrium and Pseudoequilibrium in Ion Exchange Processes on Carboxyl Cationites with the Participation of a Streptomycin Ion. (Istinnoye i lozhnoye ravnovesiya pri ionoobmennykh protsessakh na karbokail'nykh kationitakh s uchastiyem iona streptomitsina - Russian)

PERIODICAL Doklady Akad.Nauk SSSR., 1957, Vol 115, Nr 2, pp 358 - 361 (U.S.S.R.)

ABSTRACT In earlier works of the authors (together with Ye.N.Savitskaya) it was shown that the speed of ion exchange processes on carboxyl cationites, in which streptomycin ions (Str^{+3}) participate, is determined by the speed of diffusion of the latter to the interior of the cationite grain. This speed is so much slowed down on some cationite types after absorption of a certain quantity that the reaction is virtually brought to a standstill and a pseudoequilibrium begins to exist. This phenomenon is especially strong on the H-form of the cationite, although it occurs on the Na-form too. The breaking up to the Na-form cationite and the increase in sorption temperature promote a better replacement of Na^+ in the ionogenic groups of the resin by Str^{+3} and thus bring the system closer to the state of true equilibrium. It was further found that the concentration of mineral ions in the solution, beside the temperature and the state of dispersion of the resin, is of great importance in the transition of the system cationite - solution from pseudoequilibrium to true equilibrium. The present paper investigated this problem. The stucy was, as earlier, performed under static conditions and intensive stirring of the so-

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True Equilibrium and Pseudoequilibrium in Ion Exchange Processes on Carboxyl Cationites with the Participation of a Streptomycin Ion. 20-2-45/62

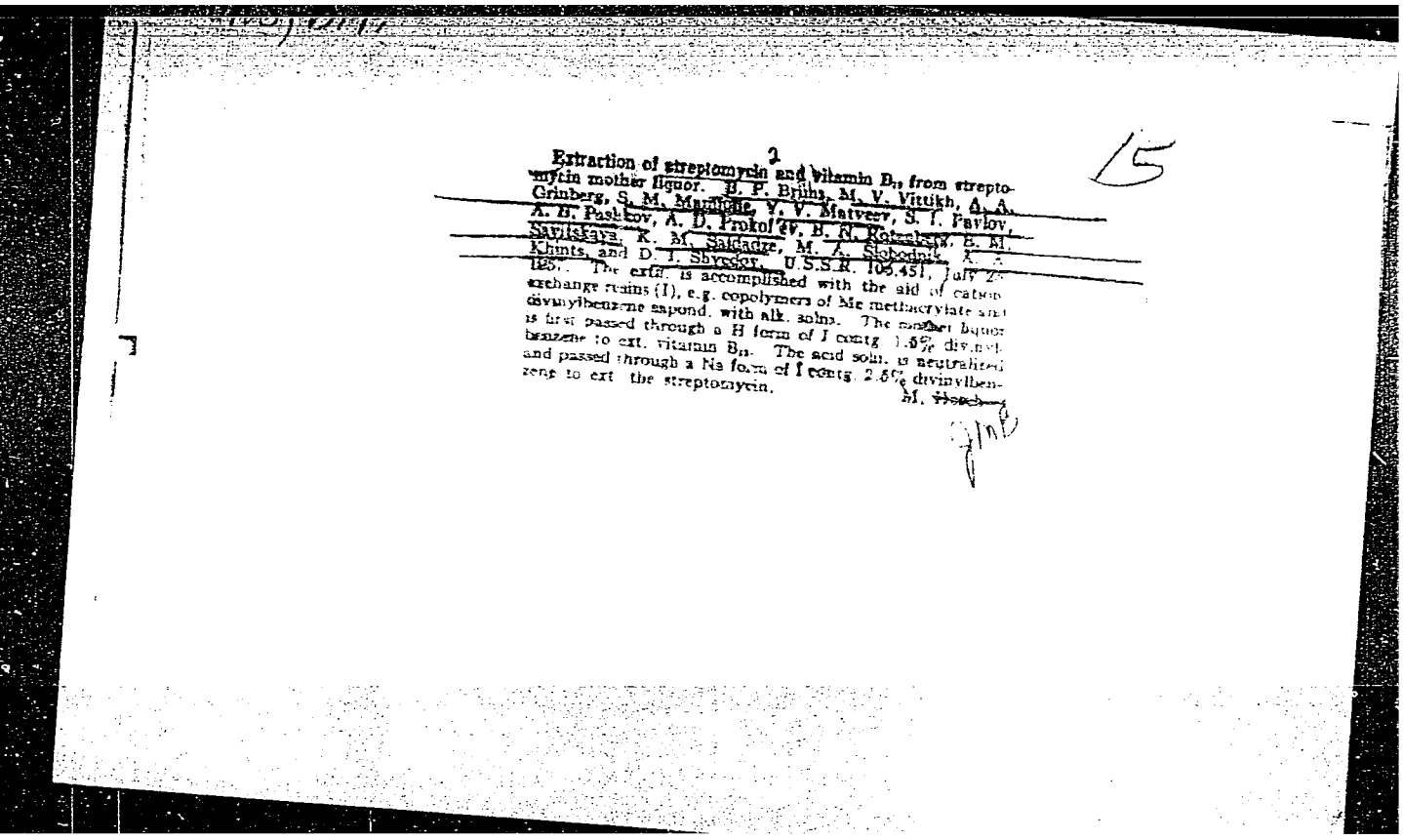
lution of the streptomycin sulfate with a cationite. Ill. 1 records the quantities of adsorbed Str^{3+} by the KB-4 type of Na-resin of two grain sires during 19o hours of contact as dependent on C_{Na+} in the solution. From this may be seen that an increase in the dispersion state of the cationite influences the quantity of Str^{3+} aorption only in the case that C_{Na+} lies between 0 and 0,5 N. From 0,5 N onward the sorption does not longer depend on the grain size of the cationate. Pseudoequilibriums also exist only below 0,5 N. The influence of sodium concentration manifests itself very distinctly in the transition from the pseudo- to the true equilibrium in the sorption by the H-form of the cationate. The authors investigated the ion exchange process in the system, H-form of KB-4 resin -- streptomycin sulfate, at various concentrations of sodium sulfate in the solution.It follows from the results that in the case of low C_{Na+} in the solution no true equilibrium is obrained in this system,but that only a pseudoequilibrium exists.In the case of higher C_{Na+} which were also to be expected on development of true equilibrium in this system, the quantity of sorbed Str^{3+} decreases with increasing C_{Na+}. This is in agreement with the data of tab.1. At present it is still difficult to give a well- founded explanation of the influence of Na-ions on the transition of the cationite-streptomycin

Card 2/3

True Equilibrium and Pseudoequilibrium in Ion Exchange Processes on Carboxyl Cationites with the Participation of a Streptomycin Ion. 20-2-45/62

system from states of pseudoequilibrium to true equilibrium. The authors only give some assumptions concerning this problem. The data given in this paper undoubtedly are also interesting with regard to the correct calculation of equilibrium constants of the ion exchange reaction with participation of Str^{3+}. Finally some published data are discussed.
(4 illustrations, 1 table, 3 Slavic references).

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov
PRESENTED BY KAGIN V.A., Academician, March 9, 1957
SUBMITTED
AVAILABLE Library of Congress.
Card 3/3



2

Extraction of streptomycin and vitamin B_{12} from streptomycin mother liquor. B. P. Bruns, M. V. Vittikh, A. A. Grinberg, S. M. Mamikin, V. V. Matveev, S. I. Pavlov, A. B. Pashkov, A. D. Prokof'ev, B. N. Rotenberg, B. M. Savitskaya, R. M. Salkadze, M. A. Slobodina, A. A. Khints, and D. I. Shvedov. U.S.S.R. 105,451, July 25, 1957. The extn. is accomplished with the aid of cation exchange resins (I), e.g. copolymers of Me methacrylate and divinylbenzene sapond. with alk. solns. The mother liquor is first passed through a H form of I contg. 1.5% divinyl-benzene to ext. vitamin B_{12}. The acid soln. is neutralized and passed through a Na form of I contg. 2.5% divinylbenzene to ext. the streptomycin.

M. Hoch

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KONDRAT'YEVA, A.P.; BRUNS, B.P.

Rate of inactivation of phenoxymethylpenicillin (V) and benzylpenicillin (G) in an acid medium. Med.prom. 11 no.12:30-34 D '57. (MIRA 11:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(PENICILLIN)

BRUNS, B.P.

BRUNS, B.P.; KARTSEVA, V.D.; SAVITSKAYA, Ye.M.; KOROBITSKAYA, A.A.

Quantitative determination of streptomycin and mannosidostreptomycin in fermentation broths [with summary in English]. Zhur.anal.khim. 12 no.2:262-264 Mr-Ap '57. (MLRA 10:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov, Moskva.

(Chemistry, Analytical--Quantitative) (Streptomycin)

Bruns, B. P.

YAKHONTOVA, L.F.; BRUNS, B.P.

True equilibrium and pseudoequilibrium in ion exchange processes on carboxyl cationites with the participation of a streptomycin ion. Dokl. AN SSSR 115 no.2:358-361 Jl '57. (MIRA 10:12)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov. Predstavleno akademikom V.A. Karginym.
(Ion exchange)

DRAFT

MAMIOFF, S.M.; SAVITSKAYA, Ye.M.; BRUNS, B.P.; SINITSYNA, Z.T.; SHELLENBERG, N.N.

Producing streptomycin sulfate by an ion-exchange method involving methanol. Med.prom. 12 no.1:39-42 Ja '58. (MIRA 11:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov. (STREPTOMYCIN) (METHANOL)

BRUNS, B.P., YERMAKOVA, N.M., KOROBITSKAYA, A.A.,

Physicochemical methods for the determination of antibiotics. Report No.4: Effect of mineral salts on the optic density of solutions during the colorimetric determination mannosidostreptomycin by the anthrone method [with summary in English]. Antibiotiki, 3 no.3:35-39 My-Je '58 (MIRA 11:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(STREPTOMYCIN, related cpds.
mannosidostreptomycin, eff. of mineral salts on optic density of solution in colorimetric dterm. by anthrone method (Rus))

KARTSEVA, V.D.; BRUNS, B.P.

Physico and chemical methods for the determination of antibiotics. Part 5: Effect of various factors on the accuracy of determination of streptomycin with the maltol method. Antibiotiki 3 no.5:39-44 S-O '58. (MIRA 12:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(STREPTOMYCIN, determ.
maltol method, eff. of various factors on accuracy (Rus))

AUTHORS: Senyavina, L. B., Bruns, B. P. SOV/75-13-5-21/24

TITLE: Physico-Chemical Methods for the Determination of Antibiotics (Fiziko-khimicheskiye metody opredeleniya antibiotikov) Communication IV. Colorimetric Determination of Biomycin (Soobshcheniye IV. Kolorimetricheskoye opredeleniye biomitsina)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol 13, Nr 5, pp 613-616 (USSR)

ABSTRACT: The Soviet preparation "Biomycin" contains as active principle an antibiotic known abroad as aureomycin or chlorotetracyclin. Some methods for its quantitative determination are published (Refs 1-6). The most suitable and simplest for the use in works- and research laboratories is the colorimetric method which was first suggested by Levine (Ref 1). It is based on the transformation of aureomycin into anhydro-aureomycin on heating in hydrochloric acid solution. The anhydro-aureomycin is colored deep-yellow-orange. This color is measured colorimetrically (Ref 7). The paper by Levine does not state whether this method is also applicable to the determination of aureomycin in culture liquids and in the intermediate stages of its isolation under industrial conditions. This matter is dealt with in the present

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paper. All extinction evaluations have been carried out on a photoelectric colorimeter by Khil'ger. It was proved that after a treatment of 3 to 5 minutes of the solution in a boiling water bath maxima. extinction is attained. The color of the solutions after cooling does not change within 5 hours, within 24 hours the extinction drops by 5% only. Because some compounds of aureomycin are only soluble in diluted hydrochloric acid, it is possible that in the standard solution the aureomycin is partly converted into anhydro-aureomycin. Thus, on the measuring of the test solution results too low are obtained. One must therefore operate with solutions of pH $< 1,9$. The obtained extinction of the anhydro-aureomycin (measured against a blank test containing aureomycin) is linearly proportional to the concentration of aureomycin in the initial solution, the concentration of aureomycin being < 1200-$1300\ \gamma$/ml. The results of this colorimetric method are in good accordance with the results of the microbiological determination of aureomycin which takes more time. At concentrations of aureomycin $< 50\ \gamma$/ml the colorimetric method provides too high values. Deviations only occur in solutions with pH ~ 2. At a lower pH and in

Physico-Chemical Methods for the Determination of Antibiotics. Communication IV. Colorimetric Determination of Biomycin SOV/75-13-5-21/24

weakly alkaline solutions both determinations provide consistent results. The deviations in weakly acid solutions are probably due to the fact that in this range the aureomycin is transformed to epichlorotetracyclin (Ref 8) which is biologically inactive but capable of forming the colored anhydro-form. It was found that the method by Levine is very specific and permits the determination of aureomycin not only in pure and trade-preparations but also in the intermediate stages of its isolation. The method is also applicable to the direct analysis of culture media if their content of aureomycin is not less than 50 γ/ml. The authors also elaborated a semi-quantitative visual colorimetric method for the determination of aureomycin. Here, solutions of potassium bichromate in various concentrations are used as comparison solutions. This method provides good estimation results and is precisely described in the paper. There are 4 tables and 8 references, 7 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov, Moskva (All-Union Scientific Research Institute of Antibiotics, Moskva)

Card 3/4

AUTHORS: Bruns, B. P., Shurmovskaya, N. A. (Moscow) SOV/76-32-9-29/46

TITLE: On the Order of Reaction for the Catalytic Oxidation of Carbon Monoxide on Manganese Dioxide (O poryadke reaktsii kataliticheskogo okisleniya okisi ugleroda na dvuokisi margantsa)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 9, pp 2137-2141 (USSR)

ABSTRACT: This catalytic reaction was studied theoretically in the present paper. For purposes of explanation it was assumed that the catalyst has two different active centers: temporary active centers which arise during the reaction (active centers type I.) and permanent active centers (active centers type II.). The conceptions of Ya. B. Zel'dovich and S. Z. Roginskiy were used in formulating the reaction mechanism (Refs 12,13). On the basis of this work an equation for the catalytic oxidation of CO was calculated. This equation explains well the course of the reaction as a first order reaction for small, and as a zero order for large, values of the ratio of the oxygen concentration to the carbon monoxide concentration:

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On the Order of Reaction for the Catalytic Oxidation of Carbon Monoxide on Manganese Dioxide SOV/76-32-9-29/46

$$[CO] = \frac{(k_1'[CO]_o + k_c)\, e^{-k_1' t}}{k_1'} - k_c$$

There are 1 figure and 24 references, 15 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov (All-Union Scientific Research Institute for Antibiotics)

SUBMITTED: April 13, 1957

Card 2/2

DRUMS, B.P.

5(2),(3) PHASE I BOOK EXPLOITATION SOV/2554

Akademiya nauk SSR. Otdeleniye khimicheskikh nauk. Komissiya po khromatografii

Issledovaniya v oblasti ionoobmennoy, raspredelitel'noy i osadochnoy kromatografii (Studies in the Field of Ion Exchange, Distribution and Precipitation Chromatography) Moscow, Izd-vo AN SSSR, 1959. 150 p. Errata slip inserted. 3,500 copies printed.

Ed. of Publishing House: N.G. Yegorov; Tech. Ed.: I.N. Guseva; Editorial Board: K.V. Chmutov, Corresponding Member, USSR Academy of Sciences (Resp. Ed.); F.M. Shemyakin, Professor; K.M. Ol'shanova, Professor; K.M. Saldadze, Docent, and N.N. Tunitskiy, Professor.

PURPOSE: This book is intended for chemists and chemical engineers.

COVERAGE: The book discusses studies in ion-exchange, distribution, and precipitation chromatography. Various problems of the theory of chromatography and its application are also considered. This is the 4th collection of articles published by the Committee on

Card 1/5

Chromatography. The first collection was published in 1952 under the title: "Issledovaniya v oblasti khromatografii" (Studies in the Field of Chromatography); the second was published in 1955 under the title "Teoriya i praktika primeneniya ionoobmennykh materialov" (Theory and Practice of the Use of Ion-exchange Materials); and the third was published in 1957 under the title "Issledovaniya v oblasti ionoobmennoy khromatografii" (Studies in the Field of Ion-exchange Chromatography). No personalities are mentioned. References are given after most of the articles.

TABLE OF CONTENTS:

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307110019-9"

AVAILABLE: Library of Congress

SAVITSKAYA, Ye.M.; YAKHONTOVA, L.F.; BRUNS, B.P.

Mechanism of ion exchange on carboxyl cationites. Vysokom. soed. 1 no.9:1416-1421 S '59. (MIRA 13:3)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(Ion exchange)

KARTSEVA, V.D.; BRUNS, B.P.

Physicochemical methods for the determination of antibiotics. Report No.10: Determination of polymyxin in a culture medium. Antibiotiki 4 no.5:45-48 S-O '59. (MIRA 13:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(ANTIBIOTICS chem.)

KOROBITSKAYA, A.A.; BRUNS, B.P.

Physical and chemical methods for the determination of antibiotics; determination of tetracycline and chlortetracycline when both are present. Med.prom. 13 no.4:49-51 Ap '59. (MIRA 12:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.

(TETRACYCLINE) (AUREOMYCIN)

YERMAKOVA, N.M.; BRUNS, B.P.

Determination of the transparency and coloring of crystalline penicillin solutions. Med.prom. 13 no.9:30-33 S '59. (MIRA 13:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(PENICILLIN)

YAKHONTOVA, L.F.; SAVITSKAYA, Ye.M.; BRUNS, B.P.; KOVARDYKOVA, S.N.

Sorption of erythromycin by ion-exchange resins. Med.prom. 13 no.11: 15-18 N '59. (MIRA 13:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(SORPTION) (ERYTHROMYCIN) (ION EXCHANGE)

5(4) SOV/76-33-1-3/45

AUTHORS: Yakhontova, L. F., Savitskaya, Ye. M., Bruns, B. P.

TITLE: Equilibrium Constants of the Ion Exchange Process for Carboxyl Cationites With a Streptomycin Ion Participation (Konstanty ravnovesiya ioncobmennogo protsessa na karboksil'nykh kationitakh s uchastiyem iona streptomitsina).

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 1, pp 15-19 (USSR)

ABSTRACT: It was shown in previous papers (Refs 1-3) that a real or an apparent equilibrium can exist in the sorption of streptomycin on carboxyl cationites. It was assumed (Ref 3) that the maximum capacity of the resin for Str^{3+} equals the capacity for Na^{+} in the case of medium-linked (or loosely-linked) cationites. This assumption is investigated in the present case. A table (1) shows that cationites with a grain size of 0.25-0.50 mm admit Str^{3+} at a lower capacity than Na^{+}, but that at a grain size of 0.08-0.12 mm the sorption of Str^{3+} in the case of the resins KFU, ROA and KB-4-P-2 is equal to that of Na^{+}, whereas a distinct increase of the Str^{3+} sorption can be observed in the case of the resins KB-4, KB-1 and amberlite IRC-50. The

Card 1/3

Equilibrium Constants of the Ion Exchange Process for Carboxyl Cationites With a Streptomycin Ion Participation

existence of an area of real or apparent equilibrium as a function of c_{Na^+} in solution is shown in a diagram obtained by the H-form of the cationite KB-4. The ion exchange of Na^+ with Str^{3+} was investigated in several resins (with 2 different grain sizes) (Tables 3,4). Here the Na^+ ion concentration was kept within the area of real equilibrium. According to the results, the equilibrium constant does not depend on the grain size of the cationite. The K_1 values obtained nearly coincide for some cationites. A calculation of the equilibrium constants according to S. Ye. Bresler and G. V. Samsonov's method (Ref 4) resulted in K_2 values (Tables 2,3,4) which do not coincide.
There are 1 figure, 4 tables, and 4 Soviet references.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov, Moskva (All-Union Scientific Research Institute for Antibiotics, Moscow)

SOV/76-33-1-3/45

Equilibrium Constants of the Ion Exchange Process for Carboxyl Cationites With a Streptomycin Ion Participation

SUBMITTED: April 30, 1957

Card 3/3

5(3, 4) SOV/20-127-3-36/71

AUTHORS: Savitskaya, Ye. M., Yakhontova, L. F., Bruns, B. P., Kolygina, T. S.

TITLE: On the Transformation of Tetracycline by Sorption With Sulphocationite to Anhydrotetracycline

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 3, pp 606-608 (USSR)

ABSTRACT: Tetracycline (I), a derivative of naphthacene and an antibiotic substance, is transformed under liberation of water upon the sulphoresin (cationite) into anhydrotetracycline (II), which is biologically inactive. (II) is difficultly soluble and remains in the resin phase in a bound state. Separation of water may be understood as inactivation. For the investigation purest (I) - 98% - was used. The sorption of (I) was carried out on a hydrogen cationite in a 95% methyl-alcohol solution or in water under static conditions at -30°. The sorbed (I) with the resin was kept in a thermostat for some time at 25°, the transformation of (I) into (II) taking place at the same time. The separation of (II) from (I) took place under dynamic conditions in a hydrochloric methyl-alcohol solution again at -30°. The degree of separation

Card 1/3

On the Transformation of Tetracycline by Sorption With Sulphocationite to Anhydrotetracycline

was photogrammetrically determined from the analysis of the precipitate. Agreement of results was attained by these two methods. It was found that (I) is transformed in the same manner in the case of all investigated sulphoresins. The resins obtained from the copolymerization of vinyl naphthalene, divinyl benzene, and styrene containing various quantities of divinyl benzene, were produced by the nauchno-issledovatel'skiy institut plastmass (Scientific Research Institute for Plastic Materials), and sulphoresin SBS-3 by the Moskovskiy khimiko-tekhnologicheskiy institut im. Mendeleyeva (Moscow Institute of Chemical Technology imeni Mendeleyev). The resins are of different structure and have different physico-chemical properties. The rate of transformation was investigated on a highly acid resin. Figure 1 shows this rate in dependence on the concentration (II) in the precipitation. The reaction is one of first order. The smaller the quantity of free electrovalent H-ions bound to the resin, the more slowly does inactivation develop. The hydrogen ions of the cationite act catalytically. All substances participating in the transforma-

On the Transformation of Tetracycline by Sorption With Sulphocationite to Anhydrotetracycline

tion are in the resin phase during transformation. The investigation is of interest for the conservation of active (I). There are 1 figure and 2 references, 1 of which is Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov (All-Union Scientific Research Institute for Antibiotics)

PRESENTED: January 23, 1959, by V. A. Kargin, Academician

SUBMITTED: January 13, 1959

Card 3/3

LOU CHZHI-SYAN' [Lou Chih-hsien]; SAVITSKAYA, Ye.M.; BRUNS, B.P.

Swelling of carboxyl resins in water - methanol mixtures. Vysokom. soed. 2 no.5:745-750 My '60. (MIRA 13:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(Resins, Synthetic) (Ion exchange)

LOU CHZHI-SYAN' [Lou Chih-hsien]; SAVITSKAYA, Ye.M.; BRUNS, B.P.

Exchange of inorganic ions on carboxyl cationites in water - methanol media. Vysokom.soed. 2 no.5:751-758 My '60. (MIRA 13:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(Ion exchange) (Methanol)

GERASIMOV, G. Ya.; YAKHONTOVA, L.F.; BRUNS, B.P.

Sorption of dyes by synthetic carboxylated ion exchangers. Vysokom. soed. 2 no.6:864-870 Je '60. (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(Sorption) (Dyes and dying) (Ion exchange)

SAVITSKAYA, Ye.M.; SHELLENBERG, N.N.; SHVEDOV, D.I.; SALDADZE, K.M.; PASHKOV, A.B.; BRUNS, B.P.

Use of type KU-2 cationites for the decalcification of streptomycin solutions. Med.prom. 14 no.4:13-17 Ap '60. (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(ION EXCHANGE) (STREPTOMYCIN)

ANDRIANOVA, T.I.; BRUNS, B.P.

Decomposition of formic acid and esterification of acetic acid on the KU-2 ion exchange resin in the vapor phase. Kin. i kat. 1 no. 3:440-446 S-O '60. (MIRA 13:11)

1. Institut fizicheskoy khimii AN SSSR.
(Formic acid) (Acetic acid) (Catalysts)

LIBINSON, G.S.; SAVITSKAYA, Ye.M.; BRUNS, B.P.

Sorption of the organic anion of the dye 1 (2',4' -dimethylphenylazo-2-hydroxynaphthyl-3,6-disulfonic acid on the weakly basic anion exchanger AN-15. Vysokom. soed. 2 no.10:1500-1507 O '60.
(MIRA 13:9)

(Azo dyes) (Sorption)

YAKHONTOVA, L.F.; BRUNS, B.P.; KOVARDYKOVA, S.N.

Sorption of polymyxin by synthetic carboxylic cation-exchange resins. Antibiotiki 5 no.2:5-9 Mr-Ap '60. (MIRA 14:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(POLYMYXIN) (ION-EXCHANGING SUBSTANCES)

KARTSEVA, V.D.; CHEKULAYEVA, Yu.S.; KORCHAGIN, V.B.; BRUNS, B.P.

Determination of streptomycin a culture solutions obtained from an enriched medium. Antibiotiki 5 no.4:50-53 Jl-Ag '60. (MIRA 13:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(STREPTOMYCIN)

YERMAKOVA, N.M.; BRUNS, B.P.; KORCHAGIN, V.B.

Investigation of the solubility of hydrochloride chlortetracycline in water. Med. prom. 14 no.9:51-53 S '60. (MIRA 13:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(CHLORTETRACYCLINE)

ZASYPKINA, P.S.; SENYAVINA, L.B.; BRUNS, B.P.

Physical and chemical methods for determining antibiotics. Part 7: Colorimetric method for determining oxytetracycline. Med. prom. 14 no. 10:31-34 O '60. (MIRA 13:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(TERRAMYCIN) (COLORIMETRY)

KONDRAT'YEVA, A.P.; VAKULENKO, N.A.; TEBYAKINA, A.Ye.; BRUNS, B.P.

Kinetics of the inactivation of erythromycin in aqueous solutions. Antibiotiki 6 no.6:541-547 Je '61. (MIRA 15:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(ERYTHROMYCIN)

YAKHONTOVA, L.F.; BRUNS, B.P.; CHEKULAYEVA, Yu.S.; SHELLENBERG, N.N.; VAKULENKO, N.A.; KOVARDYKOVA, S.N.

Choice of the optimal cationite in producing streptomycin by means of ion-exchange sorption. Med. prom. 15 no.1:21-29 Ja '61. (MIRA 14:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(STREPTOMYCIN) (ION EXCHANGE)

YAKHONTOVA, L.F.; BRUNS, B.P.; CHEKULAYEVA, Yu.S.; SHELLENBERG, N.N.; VAKULENKO, N.A.; KOVARDYKOVA, S.N.

Production of highly purified streptomycin sulfate by means of carboxycation exchange resins. Med. prom. 15 no.6:26-32 Je '61. (MIRA 15:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(STREPTOMYCIN)
(ION EXCHANGE RESINS)

KARTSEVA, V.D.; BRUNS, B.P.

A new variation of the method for determining polymixin in culture fluids. Med. prom. 15 no.6:49-50 Je '61. (MIRA 15:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(POLYMIXIN)

BOYKO, I.D.; BYLINKINA, Ye.S.; YAKHONTOVA, L.F.; BRUNS, B.P.

Production of a high quality streptomycin. Med. prom. 15 no.11:38-42 N '61. (MIRA 15:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(STREPTOMYCIN)

S/020/61/136/001/033/037
B004/B056

AUTHORS: Lou Chi-sian, Savitskaya, Ye. M., and Bruns, B. P.

TITLE: Effect of Organic Solvents Upon the Properties of a Carboxyl Cation Exchanger

PERIODICAL: Doklady Akademii nauk SSSR, 1961, Vol. 136, No. 1, pp. 151-154

TEXT: Mixtures of water and methanol are widely used for eluting organic ions which are adsorbed on carboxyl resins. However, the optimum conditions were determined empirically. The authors attempted to investigate the variations in ion exchange if water-methanol mixtures are used instead of aqueous solutions. Experiments were made with a cation exchanger which was obtained by alkaline saponification of the copolymer of methyl methacrylate and divinyl benzene. It contained only carboxyl groups as ionogenic groups. The experimental data were obtained by potentiometric titration with 0.5 N LiCl in nitrogen atmosphere according to three methods: 1) method of R. Kunin (Ref. 2); 2) Direct titration of the initial solution with and without the resin. 3) Method developed by the authors. This method is based on the determination of the equilibrial pH value of the solution in

systems consisting of exchangers, previously neutralized to various degrees, which are put into mixtures of water and an organic solvent of various known ion strength. The results obtained by these three methods were in good agreement. Fig. 2 shows the typical dependence of the neutralization degree of the cation exchanger on the pH value in the presence of 0.1 N LiCl; 60 % CH_3OH as compared with the behavior of acetic acid. The apparent dissociation constant $p\bar{K}$ was determined from a variety of Henderson's equation: $pH = p\bar{K} - n \log[(1 - \alpha)/\alpha]$; pH denotes the hydrogen-ion concentration of the outer solution; α is the degree of neutralization of the cation exchanger; and n is a constant. Determination in H_2O, in H_2O with 40 %, 60 % and 95 % CH_3OH gave a linear function $pH = f\{\log[(1 - \alpha)/\alpha]\}$ and an $n \sim 1.6$ which was independent of the methanol concentration. The following values were found for $p\bar{K}$: 0 % methanol 5.90; 40 % methanol 6.35; 60 % methanol 6.75; 95 % methanol 7.85. The strength of the acid cation exchanger drops with increasing alcohol concentration, analogously to the drop of the dissociation constant of monocarboxylic acids. Linear dependence of $p\bar{K}$ on 1/D (D denotes the dielectric constant)

Effect of Organic Solvents Upon the Properties of a Carboxyl Cation Exchanger

S/020/61/136/001/033/037
B004/B056

was found in accordance with the results of J. N. Brönsted (Ref. 12). N. A. Izmaylov is mentioned. There are 4 figures and 12 references: 4 Soviet, 7 US, and 1 German.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov (All-Union Scientific Research Institute of Antibiotics)

PRESENTED: June 27, 1960 by V. A. Kargin, Academician

SUBMITTED: June 24, 1960

Card 3/5

S/020/61/136/001/033/037
B004/B056

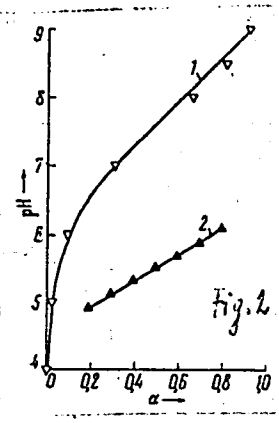

Fig. 1

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B004/B056

Legend to Fig. 2. 1: cation exchanger, 2: acetic acid.

Card 5/5

SAVITSKAYA, Ye.M.; SHELLENBERG, N.N.; LIBINSON, G.S.; BRUNS, B.P.; KOLYGINA, T.S.; DRUZHININA, Ye.N.

Method for isolating crystalline 6-aminopenicillanic acid from culture fluids obtained during the fermentation of the microorganism, Penicillium chrysogenum, without a precursor. Antibiotiki 7 no.5:434-437 My '62. (MIRA 15:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(PENICILLANIC ACID) (PENICILLIUM)

SAVITSKAYA, Ye.M.; SHELLENBERG, N.N.; LIBINSON, G.S.; BRUNS, B.P.; KOLYGINA, T.S.

Ion exchange method of isolating crystalline 6-aminopenicillanic acid from the products of the fermentative hydrolysis of penicillin. Antibiotiki 7 no.5:437-440 My '62. (MIRA 15:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(PENICILLIN) (PENICILLANIC ACID)
(ION EXCHANGE RESINS)

BRUNS, B.P.; SAVITSKAYA, Ye.M.; SHELLENBERG, N.N.; LIBINSON, G.S.; KOLYGINA, T.S.; DRUZHININA, Ye.N.

Physicochemical properties of 6-aminopenicillanic acid — titration curves and its solubility. Antibiotiki 7 no.5:440-442 My '62. (MIRA 15:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(PENICILLANIC ACID)

KONDRAT'YEVA, A.P.; DRUZHININA, Ye.N.; BRUNS, B.P.; NIKOLAYEVA, T.A.

Stability of 6-aminopenicillanic acid in aqueous solutions. Antibiotiki 7 no.5:442-448 My '62. (MIRA 15:4)

(PENICILLANIC ACID)

KONTRAT'YEVA, A.P.; BRUNS, B.P.

Resistance of erythromycin in aqueous solutions. Antibiotiki 7 no.6: 511-514 Je '62. (MIRA 15:5)
(ERYTHROMYCIN)

YAKHONTOVA, L.F.; BRUNS, B.P.; CHEKULAYEVA, Yu.S.

Use of carboxyl cation exchanges for the separation and refining of antibiotic substances. Zhur.prikl.khim. 35 no.5:1101-1108 My '62. (MIRA 15:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(Antibiotics) (Ion exchange)

LIBINSON, G.S.; SAVITSKAYA, Ye.M.; BRUNS, B.P.

Causes responsible for the establishment of false equilibrium during ion exchange sorption of big organic ions. Dokl.AN SSSR 145 no.1:133-135 Jl '62. (MIRA 15:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov. Predstavleno akademikom V.A.Karginym.
(Ion exchange)

S/191/63/000/003/010/022
B101/B186

AUTHORS: Tabidze, Z. S., Yakhontova, L. F., Bruns, B. P., Saldadze, K. M.

TITLE: Effect of ionic strength of electrolyte solution on the properties of carboxyl cationites

PERIODICAL: Plasticheskiye massy, no. 3, 1963, 33 - 36

TEXT: This is a study on the behavior of the KB-2 (KB-2) cationite, a saponification product of the copolymer of acrylic ester and 0.5% divinyl benzene, and of the KB-4 (KB-4) cationite, a saponification product of the copolymer of acrylic ester and 5% divinyl benzene, during potentiometric titration. It is based on papers by A. Katchalskiy (J. Polymer Sci., no.4, 393 (1951)). The cationites in Na-H form were put into a solution of neutral 0.01 - 2 N Na_2SO_4 salt at 20°C, until pH was constant. Then the dependence of the degree α_R of neutralization on pH_i of the external solution was determined. The apparent dissociation constant pK was determined from equations by H. P. Gregor (J. Am. Chem. Soc., 70, 1293 (1948)), and pH_i was found to depend linearly on $\log (1-\alpha_R)/\alpha_R$, and pK on $\log \mu$ (μ = ionic

Card 1/2

S/069/63/025/001/004/008
B101/B186

AUTHORS: Savitskaya, Ye. M., Lou Chih-hsien, Bruns, B. P.

TITLE: Sorption of streptomycin by carboxyl cationites from water - methanol solutions

PERIODICAL: Kolloidnyy zhurnal, v. 25, no. 1, 1963, 66-71

TEXT: This is a study on the sorption of streptomycin by weakly cross-linked КБ-4 (KB-4) cationite containing 1% divinyl benzene and by КБ-4П2 (KB-4P2) cationite with medium cross-linkage containing 5% divinyl benzene, from 40-80% methanol solutions. Its object was to find out how far the change in medium (methanol being added to water) affects the ion exchange, in view of the advantages which an alcoholic elution of streptomycin offers for its industrial production. Streptomycin sulfate insoluble in methanol, was converted into hydrochloride by ion exchange. Potentiometric titration of the streptomycin base Str^{3+} showed that the latter behaves similarly in water and in ethanol. Sorption by the lithium form as well as by the hydrogen form of KB-4 decreased as the methanol content in the solution increased. Sorption of Str^{3+} by the Li form was

Sorption of streptomycin ...

faster than by the H form, approached the limiting value of the Li^+ exchange capacity of the cationite, and dropped to 25% of this value in 80% CH_3OH. The absorption power of the H form was lower than that of Str^{3+}. After adding Li in the form of LiCl a pseudo-equilibrium became established and was shifted to higher adsorption on values. Increasing methanol content reduced the streptomycin sorption by the Li form and somewhat less also by the H form of KB-4P2. From 95% CH_3OH, streptomycin was adsorbed by the H form of KB-4P2, but no longer by the Li form. Addition of Li ions caused an increase in streptomycin sorption when 60% CH_3OH was used, and a decrease when 80% CH_3OH was used, owing to a partial conversion of the cationite into the lithium form whose adsorption power is very low in this methanol concentration. Streptomycin was completely eluated from the cationites by aqueous methanolic HCl solutions. Conclusions: The difference between the pseudo-equilibrium and the actual equilibrium increases with the methanol content. Increased methanol content affects the sorption by cationites with small cross-linkage in the same way as an increase in cross-linkage affects sorption in aqueous media. There are 8 figures.

Card 2/3

LIBINSON, G.S.; SAVITSKAYA, Ye.M.; BRUNS, B.P. (Moscow)

Kinetics of ion exchange processes. Part 1: Sorption of methylene blue on sulfonated cation exchanger of the type KU-2. Zhur.fiz.khim. 37 no.2:420-425 F '63. (MIRA 16:5)

1. Nauchno-issledovatel'skiy institut antibiotikov.
(Ion exchange) (Methylene blue)

LIBINSON, G. S.; SAVITSKAYA, Ye. M.; BRUNS, B. P.

Kinetics of ion-exchange processes. Part 2. Zhur. fiz. khim. 37 no. 3:641-643 Mr '63. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.

SURKOVA, K.I.; SAVITSKAYA, Ye.M.; BRUNS, B.P.

Catalytic activity of H ions in sulfonated polystyrene cation exchangers and in sulfuric acid solutions. Dokl. AN SSSR 160 no.2:402-404 Ja '65. (MIRA 18:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov. Submitted July 7, 1964.

SAVITSKAYA, Ye.M.; NYS, P.S.; BRUNS, B.P.

Equilibrium distribution of amino acid in the water - ion exchange system. Dokl. AN SSSR 164 no.2:378-381 S '65. (MIRA 18:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov. Submitted February 9, 1965.

BRUNS, Dmitriy Vladimirovich; MASSO, T., red.; WEBER, H., tekhn. red.

[Tallinn today and tomorrow] Tallinn tana ja homme. Tallinn, Eesti Riiklik Kirjastus. 1962. 98 p. (MIRA 16:7)

1. Glavnyy arkhitekt goroda Tallina (for Bruns).
(Tallinn)

BRUNS, G.L.

S/130/62/000/002/005/005
A006/A101

AUTHORS: Khasin, G. A., Chikina, V. G., Bogdashkin, A. I., Rannev, G. G., Bruns, G. L., Vashchenko, Yu. I.

TITLE: A unit for the hot drawing of hard-to-deform steels

PERIODICAL: Metallurg, no. 2, 1962, 33 - 35

TEXT: At the Zlatoust Metallurgical Plant a unit for the hot drawing of hard-to-deform steels was developed and put into operation. It consists of a drawing mill, type I/750M, a tubular furnace to preheat the wire and a device for measuring the wire temperature during drawing. The wire is preheated in the tubular furnace by passage through molten lead and a charcoal layer. The capacity of the furnace is 75 kw, feed voltage 380 v, and the amount of lead 2,000 kg. The lead level remained almost unchanged after the calibration of over 100 tons high-speed steel; the wear of the draw plates is about 0.01 mm per 1 ton of wire. The wire temperature when leaving the draw plate is controlled by an infrared photo-electric pyrometer developed by NIIM, being able to measure temperatures within a range of 200 - 500°C. The pyrometer is combined with an electronic potentiometer ЭПП -120 (КРР-12). The least wire diameter during the measurement

Card 1/2

2

S/130/62/000/002/005/005
A006/A101

A unit for the hot drawing of hard-to-deform steels

is 2 mm. The distance from the sensitive head to the wire surface is 5 - 10 mm. The device is power-supplied from a 220 v 50 cycle circuit through a ferro-resonance voltage stabilizer. The device operates on the principle of measuring the intensity of infrared radiation of the heated metal. Its block-circuit is given. The draw plate temperature is controlled and regulated by an induction power-frequency heater which is mounted on the draw-plate holder, in whose body a manometric thermometer is mounted. The introduction of the hot drawing method at the Zlatoust Plant yielded the following results: reduction of heat treatment and preparatory operations by a factor of 3 -4; reduction of technological production time; increase of the drawing-drum efficiency; reduction of annealing time by about 35.5 hours per one ton of steel; reliable operation of the unit and the possibility of using it in other plants. There are 3 figures.

ASSOCIATIONS: Zlatoustovskiy metallurgicheskiy zavod (Zlatoust Metallurgical Plant); Chelyabinskiy NIIM (Chelyabinsk NIIM)

Card 2/2

KHASIN, G.A.; CHIKINA, V.G.; BOGDASHKIN, A.I.; RANNEV, G.G.; BRUNS, G.L.; VASHCHENKO, Yu.I.

Equipment for the hot drawing of deformation-resistant steel. Metallurg 7 no.2:33-35 F '62. (MIRA 15:3)

1. Zlatoustovskiy metallurgicheskiy zavod i Chelyabinskiy NIIM. (Drawing (Metalwork)--Equipment and supplies)

L 13759-65
ACCESSION NR: AR4045875 S/0137/64/000/007/D040 /D040

SOURCE: Ref. zh. Metallurgiya, Abs. 7D221

AUTHOR: Bruns, G. L.; Vashchenko, Yu. I.

TITLE: Infrared photoelectric pyrometer

CITED SOURCE: Sb. Teoriya i praktika metallurgii. Vyp. 6. Chelyabinsk, 1963, 206-211

TOPIC TAGS: infrared pyrometer, heat measurement, hot drawing

TRANSLATION: This type of pyrometer has recently been widely used in hot drawing. A block diagram of the pyrometer is given and the principle of its operation is described. Also shown are the technical characteristics of the pyrometer and the range of temperatures measured (200-600°). A. Leont'yev

SUB CODE: MM, TD ENCL: 00

Card 1/1

BRUNS, G.L.; GAVRILIN, Ye.F.; SAMOSHIN, V.Ye.

Equipment for measuring the temperature of ingot surfaces. (MIRA 17:4)
Metallurg 9 no.6:25-27 Je '64.

1. Nauchno-issledovatel'skiy institut metallurgii i Cherepovetskiy metallurgicheskiy kombinat.

BRUNS, P.

IRLIN, L.; BRUNS, P. "Universal semimicroanalytical laboratory tube." p. 194. (Chemie. Vol. 7, no. 10, Oct. 1951. Praha.)

SO: Monthly List of East European Accessions, Vol. 3, no. 6, Library of Congress, June 1954. Uncl.

BRUNS.P.P.

Observations made on the processes of ice formation and melting. Transections of the Arctic Institute, Volume 83, 1937.

BRUNS, S.A.

Photoluminescence of double-base organic acids at the temperature of liquid oxygen. Nauch. soob. IGD 16:114-124 '62. (MIRA 16:8)
(Luminescence) (Acids, Organic)

BRUNS, S.A., inzh.

Concentrated quenching of the phosphorescence of two principal organic acids. Nauch. soob. IGD 19:66-75 '63. (MIRA 17:2)

L 14496-66 EWT(1) IJP(c) WW/GG

ACC NR: AP6004200 SOURCE CODE: UR/0069/66/028/001/0153/0155

AUTHORS: Bruns, S. A.; Klassen, V. I.; Kon'shina, A. K.

ORG: Mining Institute im. Skochinskiy, Moscow (Institut gornogo dela)

TITLE: Change of the extinction of light by water after subjecting the latter to the action of magnetic fields

SOURCE: Kolloidnyy zhurnal, v. 28, no. 1, 1966, 153-155

TOPIC TAGS: water, magnetic field, light absorption

ABSTRACT: The effect of alternating magnetic fields on the light transmittance of water was studied. Distilled water (specific conductance 2 x 10^{-6} mho) was passed through a glass tube 610 mm long and 6 mm in diameter. The flow rate of the water was 0.6 m/sec, and 9 electromagnets were arranged along the tube. The currents through the magnets were so arranged that adjacent magnets generated fields opposite to each other. These currents could be varied from 0—4.5 amp, permitting a variation of the magnetic field from 0—1500 oersteds. Ten minutes after the water was subjected to the magnetic field, its light transmittance was determined as a function of the magnetic field strength and wavelength of the incident light. The experimental results are presented graphically in Fig. 1. It was found that the magnetic field changed the light transmittance of water by 30% and that the change was a periodic function of the

UDC: 541.183.3

Card 1/2

L 14496-66

ACC NR: AP6004200

0

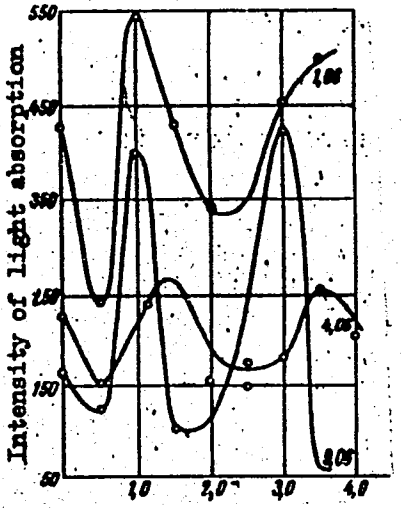

Fig. 1. Influence of the magnetic field strength on the light absorption of water

field strength. The maximum in the absorption curve occurred at one and the same wavelength and was independent of the magnetic field strength. It is suggested that the observed phenomena are due to some structural changes in the water. Orig. art. has: 2 graphs. [04]

SUB CODE: 07/ SUBM DATE: 29Jul65/ ORIG REF: 008/ ATD PRESS: 4197

Card 2/2 SC

L 26109-66 EWT(1)
ACC NR: AP6015093 SOURCE CODE: UR/0020/66/168/001/0152/0153

AUTHOR: Plaksin, I. N. (Corresponding member, AN SSSR); Bruns, S. A.; Chanturiya, V. A.; Shafeyev, R. Sh.

ORG: none

TITLE: The influence of the frequency of an electric field on the optical and structural properties of water

SOURCE: AN SSSR. Doklady, v. 168, no. 1, 1966, 152-153

TOPIC TAGS: electric effect, electric field, irradiation effect, irradiation intensity

ABSTRACT: The experiments were performed to study the effect of electric field frequency on the intensity of light extinction caused by water. The test tubes used had a capacity of 25 cubic centimeters. Two electrodes made of brass foil were fixed to the tube from the outside. A GSS-6 standard signal generator was used for irradiation. The frequency of the current was varied from 100 kcps to 26 Mcps. Duration of irradiation was 30 min. The intensity of extinction was measured on a special installation consisting of a UM-2 universal monochromator, an excitation source (a 12-volt incandescent lamp), and an FEU-29 photomultiplier. The photocurrent of the photomultiplier was recorded by a sensitive galvanometer. The monochromator could determine extinction intensity caused by water within a range from 380

Card 1/2 UDC: 546.212

L 26109-66

ACC NR: AP6015093

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to 691 mμ. Measurements were made of the spectral distribution of transmission intensity of light through an empty vessel and a vessel filled with water. The difference between these intensities gives the intensity of the light extinction caused by the water. The dependence of the extinction intensity on the electric field intensity was of two types. In the frequency range from 100 kcps to 8 Mcps in some cases a decrease in extinction intensity with regard to the untreated water was observed while in other cases an increase in extinction intensity was observed. The double character of the dependence of light extinction can be attributed to the superimposition of the influence of the electric field on the effects of different external fields present in the water which are caused by solar radiation, radiowaves, and other external electromagnetic fields. The change in the light extinction caused by the water can result from either the change in light absorption or the change in light dispersion. In both cases the structural conditions of the water are changed. Electric fields of various frequencies cause the structure of the water to change through a disturbance of the natural oscillation frequency of the water's molecules. Orig. art. has: 1 figure. [JA]

SUB CODE: 20/ SUBM DATE: 23Nov65/ OTH REF: 002/ ATD PRESS: 4153

Card 2/2

15-57-2-1472

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 2, p 43 (USSR)

AUTHOR: Bruns, Ye. P.

TITLE: The Development of the Pripyat' Depression During the Paleozoic (Istoriya razvitiya Pripyatskogo progiba v paleozoye)

PERIODICAL: Materialy Vses. n.-i. geol. in-ta, 1956, Nr 14, pp 185-207

ABSTRACT: The Pripyat' Depression is divided into a northern Starobin basin and a southern Pripyat' basin, separated by an east-west uplift, in which the Precambrian basement projects under a thin cover (15 m to 30 m) of Tertiary and Quaternary deposits. Within the Starobin basin, the east-west Gantsevichi uplift is distinguished. The Pripyat' basin is divided into two east-west basins: the Zhitkovichi and the Yel'sk.

Card 1/4

The Development of the Pripyat' Depression (Cont.)

According to geophysical data, the basement occurs at depths up to four kilometers in the Starobin and Pripyat' basins. Salt domes in incipient forms are found in the Pripyat' depression, in the region of Yel'sk and Narovlya. The beds in the cores dip at angles of 70° to 80°; on the limbs the dips are 30° to 40°. The crests of the salt domes are covered by upper Famennian breccias. The base of the section of platform strata in the Pripyat' depression consists of pre-Givetian rocks, in which three formations are distinguished: 1) red and variegated sands, silts, and clays, correlative with the Orsha series in northern Belorussia (320 m to 330 m thick); 2) coarse-grained sands, pebble conglomerates, and also tuff-sandstones and tuffs (100 m thick); and 3) a variegated sand-clay formation, correlative with the Valday group. The Devonian rocks consist of 1) the Narova formation (marls, dolomites, and clays, with Estheria, Lingula, and fish); 2) the Luga and lower Shchigry formations (a sequence of rhythmically alternating variegated sandstones, clays, and siltstones, with Lingula, Estheria, pelecypods, ostracods, and

The Development of the Pripyat' Depression (Cont.)

fish); 3) a carbonate formation of the Frasnian stage, in which all beds from the upper Shchigry to the Yevlanovo are distinguished (limestones and dolomites with layers of marls and sandy-clay rocks) (up to 350 m thick); 4) the lower Salt series, belonging to the Livny strata (rock salt, giving way on the borders of the depression to sulfates and variegated marls, and having a thickness ranging from 25 m to 100 m); 5) argillaceous limestones and dolomites (180 m thick), correlative with the Zadonsk-Yelets and the Dankov-Lebedyan' strata; in the deep parts of the depression these give way to argillaceous-carbonate-bituminous rocks (450 m thick); and 7) a formation of upper Famennian age (according to spore-pollen studies), characterized by alternating clays, marls, and dolomites (about 300 m thick). Carboniferous rocks are represented by gray argillaceous carbonate formations of the Tournaisian stage (200 m to 250 m thick) and beds of variegated sands, clays, and siltstones, with layers of limestones and brown coal, belonging to the Visean stage (up to 350 m thick). This latter sequence contains Tula, Aleksin, and Mikhaylovka

The Development of the Pripyat' Depression (Cont.)

strata. Middle Carboniferous rocks, in the vicinity of Chernigov, consist of variegated sandy-clay beds (325 m thick), but within the Pripyat' depression they have not yet been recognized. The Permian system is represented by variegated clastic rocks, 178 m of which are Lower Permian, 205 m, Upper Permian. Above the Permian occur variegated Triassic rocks (up to 463 m thick). The author furnishes a map of the surface of the basement, a geological map of the pre-Givetian rocks, a map showing distribution of the upper Famennian salt beds, and a profile section.

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